

**REMARKS**

Claims 1-26 remain pending in the application. No claims have been amended.

Applicant respectfully requests favorable reconsideration in view of the following remarks.

**I. ALLOWABLE SUBJECT MATTER**

The Applicants thank the Examiner for the indication that Claim 19 would be allowable if rewritten in independent form to incorporate the elements of the base claims and any intervening claims. However, since the Applicant believes that the remaining claims in this application are patentable, the Applicants have not rewritten Claim 19 in independent form.

**II. 35 U.S.C. § 102 - ANTICIPATION**

Claims 1-5, 10, 11, 20, and 21 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Guttag (US Pat. Publ. No. 2004/0233150 A1). Claims 22-24 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Hirawa (U.S. Pat. No. 6,822,670). Applicant respectfully traverses these rejections.

A cited prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. MPEP § 2131; *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). Anticipation is only shown where each and every limitation of the claimed invention is found in a single cited prior art reference. MPEP § 2131; *In re Donohue*, 766 F.2d 531, 534, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985).

Claims 1-5, 10, 11, 20, and 21 recite a spatial light modulator including memory elements configured to store data therein and shift data therebetween, and light modulation elements alterable in response to the data stored in respective ones of the memory elements. Applicants respectfully submit that Guttag does not teach (expressly or inherently) these features of Claims 1-5, 10, 11, 20 and 21.

The Office Action alleges that Guttag discloses the claimed memory elements in Figures 11A and 11B and in the corresponding description in paragraphs 0255-0263. However, the memory elements M (1112) and E (1118) in Guttag Figures 11A and 11B are not configured to shift data therebetween as required by Claim 1. Rather, it appears from Guttag that a given row within an array of memory elements M can be read from and written to by appropriately activating a corresponding row select line 1128. It also appears that a given row within an array of memory elements E can be read from and written to by appropriately activating a corresponding row select line 1132. (*Paragraph 0258, lines 15-19; Paragraph 0261, lines 1-5, 8-11, and 13-23.*) It further appears that data input/output lines 1125 can be used to read from and write to memory elements E within the selected row of the E array, and that a data input/output line, M-Data, can be used to read from and write to memory elements M within the selected row of the M array. Thus, although the memory elements M and E of Guttag Figures 11A and 11B may at first glance appear to be configured to shift data therebetween, this is not in fact the case, as demonstrated above.

For the exemplary reasons set forth above, Guttag fails to anticipate the invention recited in Claims 1-5, 10, 11, 20 and 21.

With respect to independent Claim 22, Applicants respectfully submit that Hirawa does not teach (expressly or inherently) at least the following feature recited in Claim 22: after transferring an image onto a substrate in response to data loaded into memory elements

associated with respective light modulation elements and then shifting the data between the memory elements, “*altering ones of the light modulation elements in response to the data shifted thereunto to transfer the image onto the substrate.*”

Referring to Figure 11 of Hirawa, the pixel data in one of the shift registers 432 represents a first image at a first point in time, and the pixel data in the other shift register 431 represents a second image at a subsequent point in time. (*Figure 11; Col. 12, Lines 52-62.*) Thus, although the pixel data is shifted from one shift register 431 to another shift register 432, in Hirawa, the same pixel data is not used for multiple image transfers. For example, in Hirawa, the pixel data used to transfer the first image is loaded into the light modulator 12 prior to image transfer, the loaded pixel data is discarded after image transfer, and entirely new pixel data used to transfer the second image is loaded into the light modulator 12 to transfer the second image. The second image is not loaded into the light modulator 12 by shifting the pixel data representing the first image. Thus, for each image, the shift registers 431 and 432 in Hirawa store all of the pixel data for each light modulation element.

For at least these reasons, Hirawa fails to anticipate Applicants’ invention as recited in Claims 22-24.

In view of the foregoing, Applicants submit that the § 102 rejections of Claims 1-5, 10, 11 and 20-24 are overcome. Accordingly, Applicants respectfully request that the Examiner withdraw the § 102 rejections of Claims 1-5, 10, 11 and 20-24.

### **III. 35 U.S.C. § 103 - OBVIOUSNESS**

The Office Action states that Claims 6-9 and 12-17 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Gutttag in view of Morokawa et al. (U.S. Patent No. 4,302,829). The Office Action further states that Claims 18, 25 and 26 are rejected under 35

U.S.C. § 103(a) as being unpatentable over Guttag and Morokawa et al and further in view of Matsui (U.S. Patent No. 6,320,635). Applicants respectfully traverse these rejections.

It is initially noted that, although Page 5 of the Office Action formulates the rejections of Claims 6-9 and 12-17 in the manner set forth above, nevertheless, the specific rationale for the rejections of Claims 13, 15 and 16 (on Page 6 of the Office Action) appears further to include the teachings of Hirawa in combination with those of Guttag and Morokawa. Accordingly, in order to expedite prosecution, it is assumed for purposes of this paper that Claims 13, 15 and 16 are rejected over Guttag in view of Morokawa, and further in view of Hirawa.

Claims 6-9 and 12-18 depend ultimately from Claim 1, and therefore include all of the exemplary limitations discussed above with respect to the § 102 rejection of Claim 1. Morokawa, Hirawa and Matsui all fail to remedy the above-described deficiencies of Guttag with respect to Claim 1, so the § 103 rejections of Claims 6-9 and 12-18 are overcome for at least the same reasons given above with respect to the § 102 rejection of Claim 1.

With respect to the rejections of Claims 25 and 26, the Office Action states on Page 6 that Claims 25 and 26 are rejected over Guttag and Morokawa “as applied to claim 17”, and further in view of Matsui. Claim 17 is an apparatus claim that depends ultimately from independent apparatus Claim 1. Claims 25 and 26 are dependent method claims which depend ultimately from independent method Claim 22, and which are directed to subject matter unrelated to that of Claim 17. Applicants therefore do not understand how the Office Action purports to relate the rejections of Claims 25 and 26 to the rejection of Claim 17. Appropriate clarification of this matter is respectfully requested.

Notwithstanding Applicants’ aforementioned confusion regarding the rejections of Claims 25 and 26, it is noted that the Office Action applies only Hirawa against Claim 22 (in

the aforementioned § 102 rejection), and does not apply either Guttag or Morokawa against Claim 22. It is further noted that Claim 25 depends directly from Claim 22, that Claim 26 depends directly from Claim 25, and that only Matsui is mentioned in the specific rationale for rejection of Claims 25 and 26 on Page 7 of the Office Action. Accordingly, in order to expedite prosecution, it is assumed for purposes of this paper that the intent of the Office Action is to reject Claims 25 and 26 over Hirawa in view of Matsui.

As mentioned above, Claims 25 and 26 depend from independent Claim 22, and therefore include all of the exemplary limitations discussed above with respect to the § 102 rejection of Claim 22. Matsui fails to remedy the above-described deficiencies of Hirawa with respect to Claim 22, so the § 103 rejections of Claims 25 and 26 are overcome for at least the same reasons given above with respect to the § 102 rejection of Claim 22.

For at least these reasons, Applicants submit that the § 103 rejections of Claims 6-9, 12-18, 25 and 26 are overcome. Accordingly, Applicants respectfully request that the Examiner withdraw the § 103 rejections of Claims 6-9, 12-18, 25 and 26.


**CONCLUSION**

Thus, all grounds of rejection and/or objection are traversed or accommodated, and favorable reconsideration and allowance are respectfully requested. Should the Examiner have any further questions or comments facilitating allowance, the Examiner is invited to contact Applicants' representative indicated below to further prosecution of this application to allowance and issuance.

Respectfully submitted,

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